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PCT/JP2005/001284
Yasufumi SHIBATA et al.
Attorney Docket No. 03284.0061

ANNEXES TO THE
PRELIMINARY EXAMINATION REPORT
(ARTICLE 34 AMENDMENTS)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

REQUEST FOR SUBSTITUTION OF REPLACEMENT SHEETS

Please substitute the attached replacement pages 36-39 of the claims of the Article 34 Amendments for pages 36-39 of the claims in the enclosed as-filed PCT application. It is respectfully requested that the claims in the substitute pages be examined during examination of the patent application. Claims 2, 4-11, 13, and 15-23 are currently pending.

Respectfully submitted,

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Dated: July 28, 2006

By: J W Edmonson
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15704281 28 JUL 2006

CLAIMS:

1. (canceled)
2. A clathrate compound represented by the following composition formula (2):

Composition formula (2) $Ba_8Au_bGa_cGe_{46-b-c}$

$(5 \leq b < 16/3, c = 16-3b)$.

3. (canceled)
4. A clathrate compound represented by the following composition formula (4):

Composition formula (4) $Ba_8Au_fGa_{6-f}Ge_{40} (0 < f < 6)$.

5. A clathrate compound represented by the following composition formula (5):

Composition formula (5) $Ba_8Pt_gGe_{46-g} (4 < g < 6)$.

6. A clathrate compound represented by the following composition formula (6):

Composition formula (6) $Ba_8Pd_hGe_{46-h} (5 < h < 6)$.

7. A clathrate compound represented by the following composition formula (7):

Composition formula (7) $Ba_8Pd_iGa_jGe^{46-i-j}$
($0 \leq i \leq 4, j = 16-4i$).

8. A clathrate compound represented by the following composition formula (8):

Composition formula (8) $Ba_8A_kGa_lSi^{46-k-l}$
($0 \leq k \leq 4, l = 16-4k$)

wherein A in Composition formula (8) represents Pd or Pt.

9. A clathrate compound represented by the following composition formula (9):

Composition formula (9) $Ba_8E_mGa_{6-m}Ge_{40}$
($5 < m < 6$)

wherein E in Composition formula (9) represents Cu or Ag.

10. A clathrate compound represented by the following composition formula (10):

Composition formula (10) $Ba_8G_nGa_{6-n}Ge_{40}$ ($0 < n \leq 5$)
wherein G in Composition formula (10) represents Cu or Ag.

11. A clathrate compound represented by the following composition formula (11):

Composition formula (11) $Ba_8J_0Ga_pGe^{46-o-p}$
($0 < o < 16/3, p = 16-3o$)

wherein J in Composition formula (11) represents Cu or Ag.

12. (canceled)
13. A thermoelectric conversion element comprising a sintered body of the clathrate compound of claim 2.
14. (canceled)
15. A thermoelectric conversion element comprising a sintered body of the clathrate compound of claim 4.
16. A thermoelectric conversion element comprising a sintered body of the clathrate compound of claim 5.
17. A thermoelectric conversion element comprising a sintered body of the clathrate compound of claim 6.
18. A thermoelectric conversion element comprising a sintered body of the clathrate compound of claim 7.
19. A thermoelectric conversion element comprising a sintered body of the clathrate compound of claim 8.
20. A thermoelectric conversion element comprising a sintered body of the clathrate compound of claim 9.

21. A thermoelectric conversion element comprising a sintered body of the clathrate compound of claim 10.

22. A thermoelectric conversion element comprising a sintered body of the clathrate compound of claim 11.

23. A method for producing a thermoelectric conversion element comprising a sintered body of a clathrate compound whose constituent atoms include Ba and Ge, the method comprising:

melting elements which are to constitute the clathrate compound so as to synthesize the clathrate compound;

heat-treating the synthesized clathrate compound at 650 to 900 °C for 50 to 250 hours;

forming particles from the heat-treated clathrate compound; and

sintering the particles.